We Claim:

1. A method for expression, purification and structural recovery of hydrophobic proteins, polypeptides or peptides comprising the steps of:

   i) constructing a vector coding for a fusion protein which contains within its amino acid sequence a protein or peptide that targets the fusion protein to bacterial inclusion bodies, a hexa-His tag, the desired hydrophobic protein, polypeptide, or peptide, and at least one of at least one stop codon contained within the DNA sequence coding for the fusion protein or at least one cyanogen bromide cleavage site in the fusion protein itself;

   ii) expressing the fusion protein using a vector to target the expressed fusion protein to inclusion bodies;

   iii) isolating the inclusion bodies and cleavage of the fusion protein;

   iv) purifying the recombinant protein, polypeptide or peptide using Nickel-chelate chromatography; and

   v) recovering natural conformation and secondary structure of the protein, polypeptide or peptide by dissolution in an acidic organic solvent, and at the same time assuring an unaggregated form

   wherein when the desired hydrophobic protein, polypeptide or peptide contains a methionine residue in a location where one does not wish cleavage by cyanogen bromide, the methionine residue is either removed or substituted by manipulation of the coding DNA during design of the expression vector for the fusion protein.

2. The method as claimed in claim 1, wherein the fusion protein is a TrpE fusion protein.

3. The method as claimed in claim 2, wherein the fusion protein is expressed in a bacterium.

4. The method as claimed in claim 4, wherein the bacterium is *E.coli*.

5. The method as claimed in claim 5, wherein the bacterium is selected from the group comprising the strains JM101, BL21, DH5α, and JM109.

6. The method as claimed in claim 1, wherein the vector is a pATH vector or a pET vector.

7. The method as claimed in claim 7, wherein the vector is a pATH11 vector.

8. The method as claimed in claim 1, wherein the acidic organic solvent comprises a mixture of an acid that can dissolve the protein, polypeptide or peptide and an organic solvent.

9. The method as claimed in claim 9, wherein the acidic organic solvent comprises a mixture of (a) formic acid, glacial acetic acid, chloroform and ethanol, or (b) formic acid, glacial acetic acid, chloroform and trifluoroethanol.

10. The method as claimed in claim 10, wherein the acidic organic solvent mixture of (a) and (b) is in a 1:1:2:1 ratio.

11. A method for expression and purification of hydrophobic proteins, polypeptides or peptides comprising the steps of:

i) expressing a fusion protein which contains within its amino acid sequence a protein or peptide that targets the fusion protein to bacterial inclusion bodies, a cyanogen bromide cleavage site comprising a methionine residue, a hexa-His tag, and the desired hydrophobic protein, polypeptide or peptide followed by either a stop codon contained within the DNA sequence coding for the fusion protein or a further cyanogen bromide cleavage site comprising a methionine residue;

ii) expressing the fusion protein using a vector to target the expressed fusion protein to inclusion bodies;

iii) isolating the inclusion bodies and cleavage of the fusion protein; and

iv) purifying the recombinant proteins, polypeptides or peptides using Nickel-chelate chromatography

wherein when the hydrophobic protein, polypeptide or peptide contains a methionine residue, the methionine residue is either removed or substituted by standard manipulation of the coding DNA before expression of the fusion protein.

12. The method as claimed in claim 11, wherein the vector is a pATH vector or a pET vector.

13. An acidic organic solvent comprising a mixture of formic acid, glacial acetic acid, chloroform and trifluoroethanol.

14. An acidic organic solvent as claimed in claim 13, wherein the formic acid, glacial acetic acid, chloroform and trifluoroethanol exist in a 1:1:2:1 ratio.

15. The use of an acidic organic solvent to assure that the final peptide is not aggregated and for recovery of secondary structure of hydrophobic proteins, polypeptides or peptides.

16. The use as claimed in claim 15, wherein the acidic organic solvent comprises a mixture of an acid that can dissolve the proteins, polypeptides or peptides and an organic solvent.

17. The use as claimed in claim 16, wherein the acidic organic solvent comprises a mixture of formic acid, glacial acetic acid, chloroform and ethanol or trifluoroethanol.

18. The use of the acidic organic solvent of claim 16 for the assembly of hydrophobic peptides into lipid bilayers or other lipidic phase.